

# Vision Models and Visual Quality

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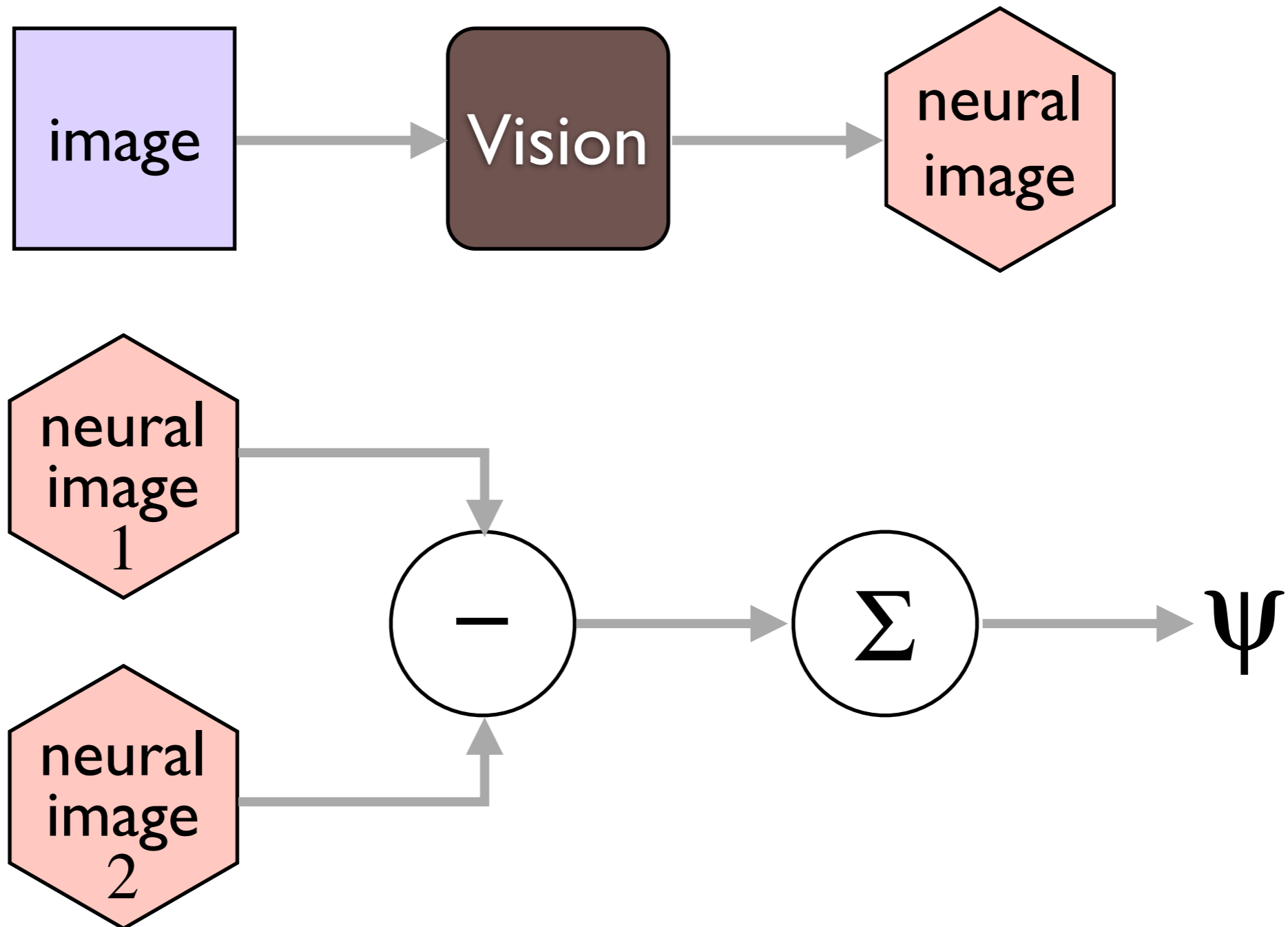
# Overview

- Fidelity vs Quality
- Key elements of Vision Metrics
- The Spatial Standard Observer
- Applications of Vision Metrics
- Thoughts on Subjective Testing

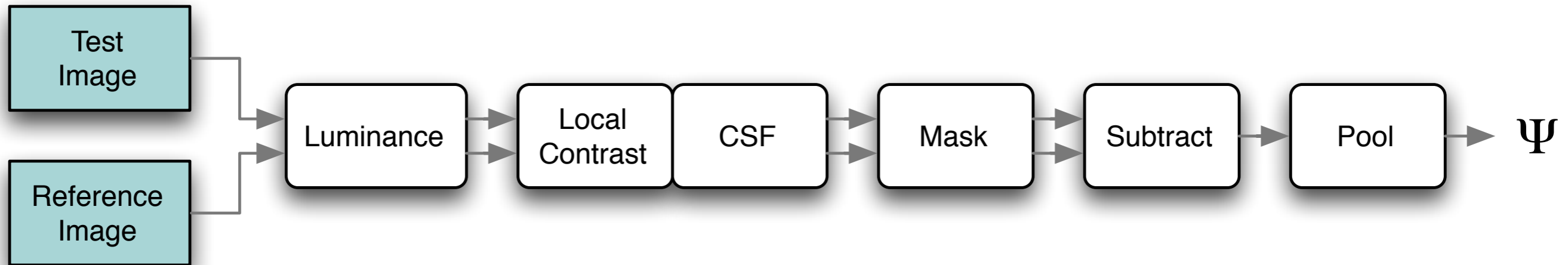
# Key Elements of Vision Metrics

- Error model
- Visual angle
- Local contrast
- Contrast sensitivity function
- Sampling in space and frequency
- Anisoplanatism
- Masking
- Pooling

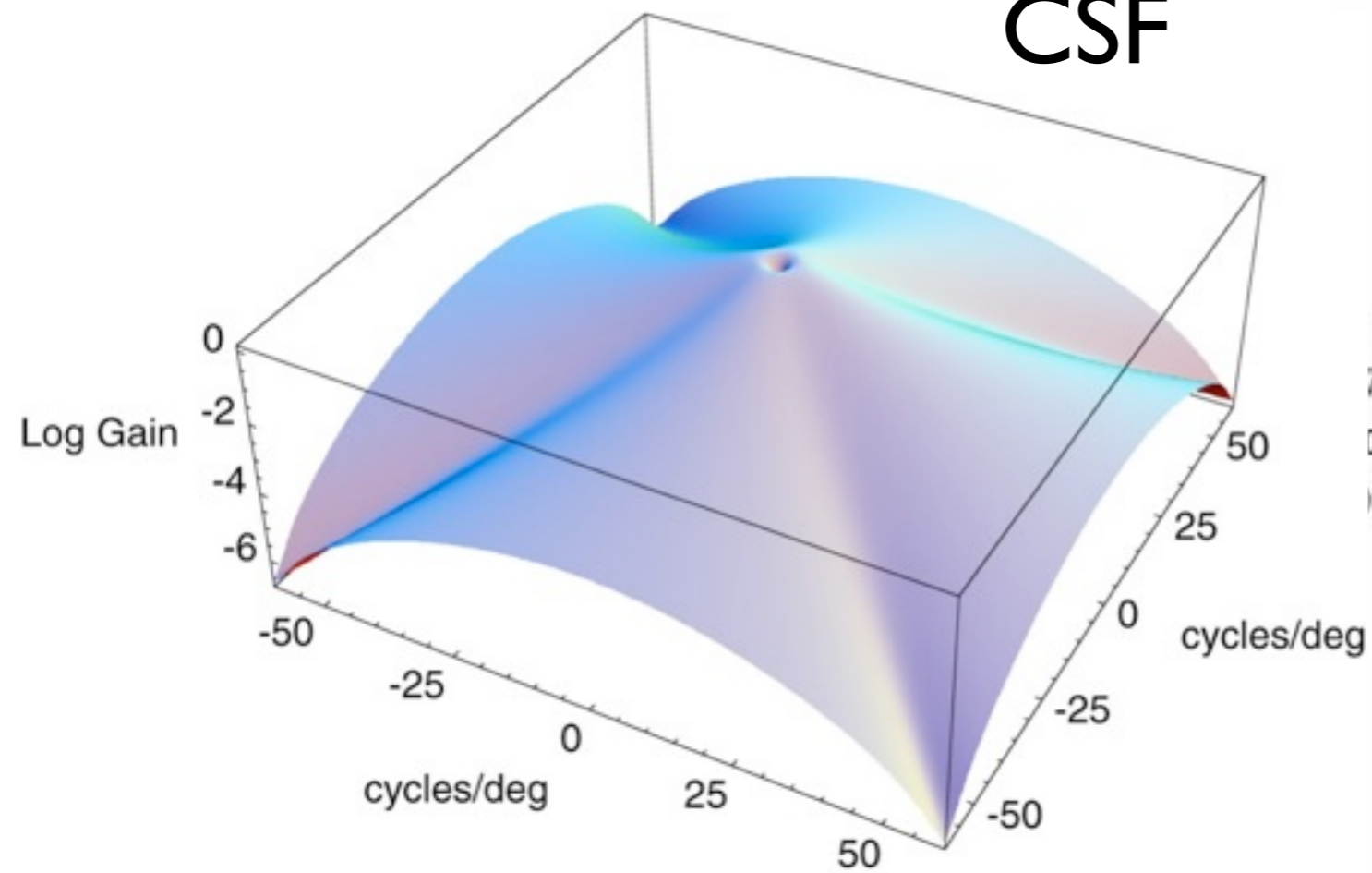
# Error Model



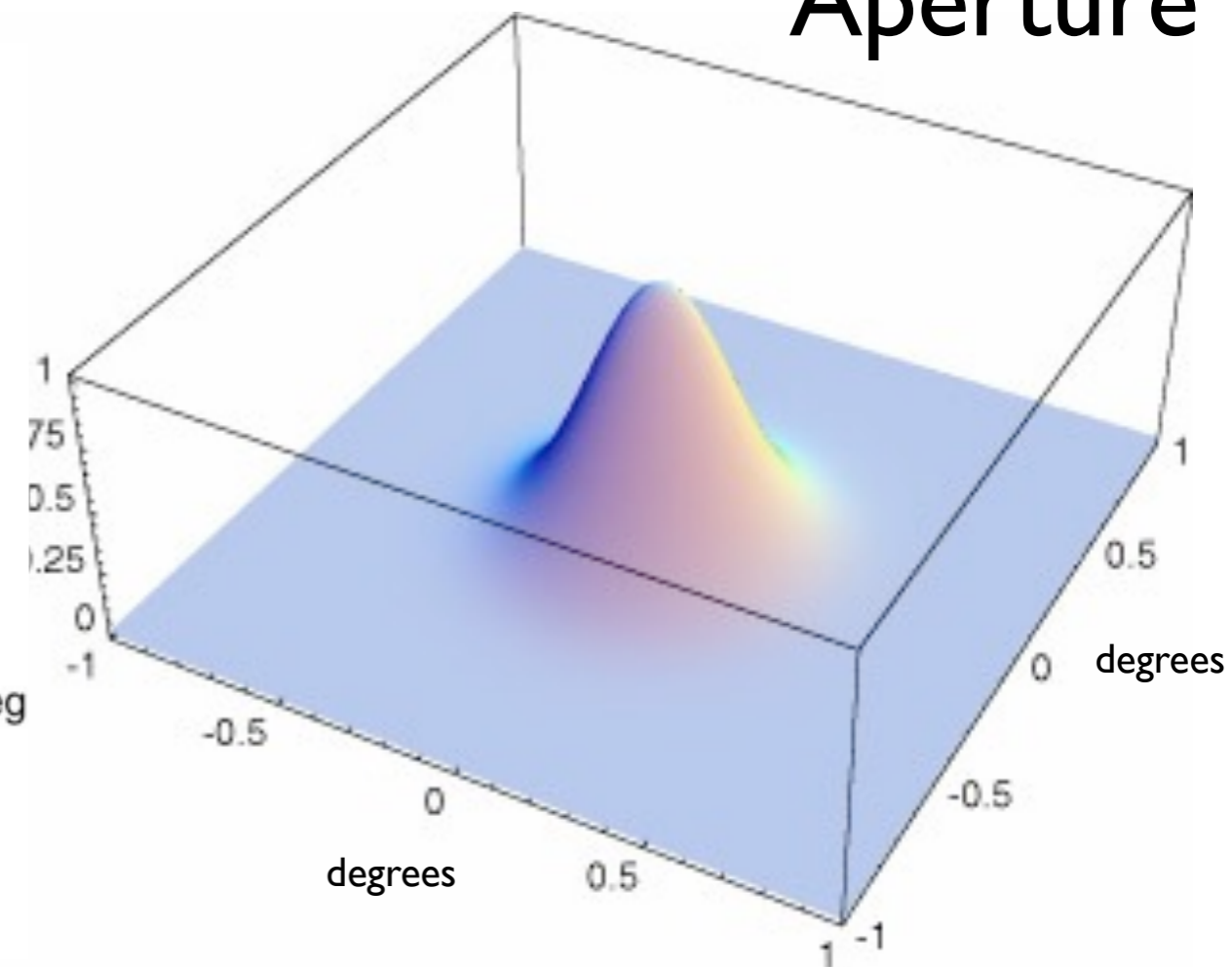
# Spatial Standard Observer



CSF



Aperture



# Applications of Vision Metrics

- Display Inspection (Mura)
- Motion Blur in LCD TV
- Display Grain
- Video Quality

# Subjective Testing

- Problems with DSCQS
- Problems with Rating Scales
- Concept of the JND scale
- EASE method to estimate JND

# References

Most of these papers are available in PDF form at <http://vision.arc.nasa.gov/publications.php>

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